Complete Summary

GUIDELINE TITLE

Fragile X testing in obstetrics and gynaecology in Canada.

BIBLIOGRAPHIC SOURCE(S)

Genetics Committee of the Society of Obstetricians and Gynaecologists of Canada, Prenatal Diagnosis Committee of the Canadian College of Medical Geneticists(CCMG), Chitayat D, Wyatt PR, Wilson RD, Johnson JA, Audibert F, Allen V, Gagnon A, Langlois S, Blight C, Brock JA, Desilets V, Farell SA, Geraghty M, Nelson T, Nikkel SM, Skidmore D, Shugar A. Fragile X testing in obstetrics and gynaecology in Canada. J Obstet Gynaecol Can 2008 Sep;30(9):837-41. [35 references] PubMed

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

- Fragile X syndrome
- Fragile X tremor/ataxia syndrome
- Premature ovarian failure

GUIDELINE CATEGORY

Counseling
Prevention

Risk Assessment
Screening

CLINICAL SPECIALTY

Hematology
Medical Genetics
Obstetrics and Gynecology
Pediatrics

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To provide Canadian family physicians, genetic counsellors, medical geneticists, midwives, and obstetrician-gynaecologists with recommendations regarding screening for fragile X in the obstetrical and gynaecological population

TARGET POPULATION

Pregnant women

INTERVENTIONS AND PRACTICES CONSIDERED

Screening/Risk Assessment

1. Fragile X genetic testing of women after counseling and informed consent
2. Prenatal fetal testing via chorionic villus sampling or amniocentesis
3. Referral to a medical geneticist for counseling and assessment

MAJOR OUTCOMES CONSIDERED

- Completion of pregnancy
- Maternal and fetal perinatal morbidity and mortality

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Medline, the Cochrane Library, journals, and textbooks were searched for English-language articles, published between 1966 and March 2008, relating to fragile X

testing outcomes. Search terms included fragile X, screening, prenatal testing, pregnancy outcome, premutation, trinucleotide repeats, and ovarian failure.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Quality of Evidence Assessment*

I: Evidence obtained from at least one properly designed randomized controlled trial.

II-1: Evidence obtained from well-designed controlled trials without randomization.

II-2: Evidence obtained from well-designed cohort (prospective or retrospective) or case–control analytic studies, preferably from more than one center or research group.

II-3: Evidence obtained from comparisons between times or places with or without the intervention. Dramatic results in uncontrolled experiments (such as the results of treatment with penicillin in the 1940s) could also be included in this category

III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

* Adapted from the Evaluation of Evidence criteria described in the Canadian Task Force on Preventive Health Care.

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

All study types were reviewed. Randomized controlled trial results were considered evidence of the highest quality, followed by results of cohort studies. Key individual studies on which the recommendations are based are referenced. Supporting data for each recommendation are summarized with evaluative comments and references.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Classification of Recommendations**

A. There is good evidence to recommend the clinical preventive action

B. There is fair evidence to recommend the clinical preventive action

C. The existing evidence is conflicting and does not allow to make a recommendation for or against use of the clinical preventive action; however, other factors may influence decision-making

D. There is fair evidence to recommend against the clinical preventive action

E. There is good evidence to recommend against the clinical preventive action

L. There is insufficient evidence (in quantity or quality) to make a recommendation; however, other factors may influence decision-making

**Recommendations included in these guidelines have been adapted from the Classification of Recommendations criteria described in the Canadian Task Force on Preventive Health Care.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

This committee opinion has been prepared by the Genetics Committee of the Society of Obstetricians and Gynaecologists of Canada (SOGC) and the Prenatal Diagnosis Committee of the Canadian College of Medical Geneticists (CCMG) and approved by the Executive of the SOGC and the Board of Directors of the CCMG.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The quality of evidence (I-III) and classification of recommendations (A-E) are defined at the end of the "Major Recommendations."

1. Any testing for fragile X syndrome must occur only following thorough counselling and with the informed consent of the woman to be tested. **(III-A)**
2. Fragile X testing is indicated for a woman with a family history of fragile X syndrome, fragile X tremor/ataxia syndrome, or premature ovarian failure (in more than one family member) if the pedigree structure indicates that she is at risk of inheriting the mutated gene. Referral to a medical geneticist for counselling and assessment should be considered in these cases. **(II-2A)**
3. Fragile X testing is indicated for women who have a personal history of autism or mental retardation/developmental delay of an unknown etiology or who have at least one male relative with these conditions within a three-generation pedigree. **(II-2A)**
4. Fragile X testing is indicated for women who have reproductive or fertility problems associated with an elevated level of follicle stimulating hormone before the age of 40. **(III-A)**
5. Prenatal fetal testing via chorionic villus sampling or amniocentesis should be offered to women who are confirmed to be carriers of a premutation or full mutation of the fragile X gene (FMR-1). **(II-2A)** Pre-implantation genetic diagnosis is available as another reproductive option. **(III-A)**
6. Population screening for fragile X syndrome for all women in the reproductive age-range is feasible. However, it should be considered only when there is a provincial/regional program that can test and adequately counsel the targeted population about the meaning and implications of the results. **(II-2B)**

Definitions

Quality of Evidence Assessment*

I: Evidence obtained from at least one properly designed randomized controlled trial.

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III: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

Classification of Recommendations**

A. There is good evidence to recommend the clinical preventive action

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E. There is good evidence to recommend against the clinical preventive action

L. There is insufficient evidence (in quantity or quality) to make a recommendation; however, other factors may influence decision-making

*The quality of evidence reported in these guidelines has been adapted from The Evaluation of Evidence criteria described in the Canadian Task Force on Preventive Health Care.

**Recommendations included in these guidelines have been adapted from the Classification of Recommendations criteria described in the Canadian Task Force on Preventive Health Care.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate screening of patients at risk for fragile X syndrome

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

This document reflects emerging clinical and scientific advances on the date issued and is subject to change. The information should not be construed as dictating an exclusive course of treatment or procedure to be followed. Local

institutions can dictate amendments to these opinions. They should be well documented if modified at the local level. None of these contents may be reproduced in any form without prior written permission of the Society of Obstetricians and Gynaecologists of Canada (SOGC).

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Staying Healthy

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Genetics Committee of the Society of Obstetricians and Gynaecologists of Canada, Prenatal Diagnosis Committee of the Canadian College of Medical Geneticists(CCMG), Chitayat D, Wyatt PR, Wilson RD, Johnson JA, Audibert F, Allen V, Gagnon A, Langlois S, Blight C, Brock JA, Desilets V, Farell SA, Geraghty M, Nelson T, Nikkel SM, Skidmore D, Shugar A. Fragile X testing in obstetrics and gynaecology in Canada. J Obstet Gynaecol Can 2008 Sep;30(9):837-41. [35 references] PubMed

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2008 Sep

GUIDELINE DEVELOPER(S)

Canadian College of Medical Geneticists - Professional Association
Society of Obstetricians and Gynaecologists of Canada - Medical Specialty Society

SOURCE(S) OF FUNDING

Society of Obstetricians and Gynaecologists of Canada

GUIDELINE COMMITTEE

Society of Obstetricians and Gynaecologists of Canada Genetics Committee
Canadian College of Medical Geneticists Prenatal Diagnosis Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Principal Authors: David Chitayat, MD, Toronto ON; Philip R. Wyatt, MD, Toronto ON

Society of Obstetricians and Gynaecologists of Canada Genetics Committee Members: R. Douglas Wilson (*Chair*), MD, Philadelphia PA; Jo-Ann Johnson, MD, Calgary AB; François Audibert, MD, Montreal QC; Victoria Allen, MD, Halifax NS; Alain Gagnon, MD, Vancouver BC; Sylvie Langlois, MD, Vancouver BC; Claire Blight, RN, Dartmouth NS; Jo-Ann Brock, MD, Halifax NS; Valerie Désilets, MD, Montreal QC; Philip R. Wyatt, MD, Toronto ON

Canadian College of Medical Geneticists Prenatal Diagnosis Committee Members: Sylvie Langlois (*Chair*), MD, Vancouver BC; David Chitayat, MD, Toronto ON; Valerie A. Désilets, MD, Montreal QC; Sandra A. Farrell, MD, Mississauga ON; Michael Geraghty, MD, Ottawa ON; Tanya Nelson, PhD, Vancouver BC; Sarah M. Nikkel, MD, Ottawa ON; David Skidmore, MD, Halifax NS; Andrea Shugar, MSc, Toronto ON

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Disclosure statements have been received from all members of the committees.

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the Society of Obstetricians and Gynaecologists of Canada Web site.

Print copies: Available from the Society of Obstetricians and Gynaecologists of Canada, La société des obstétriciens et gynécologues du Canada (SOGC) 780 promenade Echo Drive Ottawa, ON K1S 5R7 (Canada); Phone: 1-800-561-2416

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI Institute on March 2, 2009. The information was verified by the guideline developer on March 13, 2009.

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